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*Chas. A. Duncan recd. from Robert Keays from  
Ant. H.*

LETTERS  
UPON  
CHOLERA MORBUS,  
WITH OBSERVATIONS  
UPON CONTAGION, QUARANTINE,  
AND DISINFECTING FUMIGATIONS.

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BY WILLIAM FERGUSSON, M.D., F.R.S.E.,  
INSPECTOR GENERAL OF HOSPITALS.

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*Felix qui potuit rerum cognoscere causas.*

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LETTERS

ON THE

CHOLERA MORBUS,

&c. &c. &c.

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WINDSOR, FEB. 9, 1832.

Salus populi suprema Lex.

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IN writing the following letters, which I have given in the order of their respective dates, I was actuated by the state of the public mind at the time in regard to the dreaded disease of which they principally treat. The two first were addressed to the Editor of the WINDSOR EXPRESS, and the third to a Medical Society here, of which I am a member. The contemplation of the subject has beguiled many hours of sickness and bodily pain, and I now commit the result to the press in a more connected form, from the same motives, I believe, that influence other writers—zeal in the cause of truth, whatever that may turn out to be, and predilection for what has flowed from my own pen, not however without the desire and belief, that what I have thus written may prove useful in the discussion of a question which has in no small degree agitated our three kingdoms, and most deeply interested every civilized nation on the face of the earth.

No one, unless he can take it upon him to define the true nature of this new malignant Cholera Morbus, can be warranted utterly to deny the existence of contagion, but he may at the least be permitted to say, that if contagion do exist at all, it must be the weakest in its powers of diffusion, and the safest to approach of any that has ever yet been known amongst diseases. Amateur physicians from the Continent, and from every part of the United Kingdoms, eager and keen for Cholera, and more numerous than the patients themselves, beset and surrounded the sick in Sunderland with all the fearless self-exposing zeal of the missionary character, yet no one could contrive, even in the foulest dens of that sea-port, to produce the disease in his own person, or to carry it in his saturated clothing to the healthier quarters of the town where he himself had his lodging.\* Surely if the disease had been typhus fever, or any other capable of contaminating the atmosphere of a sick apartment, or giving out infection more directly from the body of a patient, the result must have been different; its course, notwithstanding, has been most unaccountably and peculiarly its own—slow and sure for the most part, the infected wave has rolled on from its tropical origin in the far distant east, to the borders of the arctic circle in the west—not unfrequently in the face of the strongest winds, as if the blighting action of those atmospherical currents had prepared the surface of the earth, as well as the human body for the reception and deposition of the poison; but so far from always following the stream and line of population as has been attempted to be shown, it has often run directly counter to both, seldom or never desolating the large cities of Europe, like the plague and other true contagions, but rather wasting its fury upon encampments of troops, as in the east, or the villages and hamlets of thickly peopled rural districts.

That it could have been descried on no other than the above line

\* The numbers were so great (to which I should probably have added one had my health permitted) as actually to make gala day in Sunderland, and to call forth a public expression of regret at their departure.

must be self-evident, but to say that it has followed it in the manner that a contagious disease ought to have done, in our own country for instance, is at variance with the fact. From Sunderland and Newcastle to the south, the ways were open, the stream of population dense and continuous, the conveyances innumerable, the communications uninterrupted and constant. Towards the thinly-peopled north how different the aspect,—townships rare, the country often high, cold, and dreary, in many parts of the line without inhabitants or the dwellings of man for many miles together, yet does the disease suddenly alight at Haddington, a hundred miles off, without having touched the towns of Berwick, Dunbar, or any of the intermediate places. It is said to have been carried there by vagrant paupers from Sunderland. Can this be true? Could any such with the disease upon them in any shape, have encountered such a winter journey without leaving traces of it in their course? or, if they carried it in their clothing, the winds of the hills must have disinfected these *fomites* long before their arrival. No contagionist, however unscrupulous and enthusiastic, nor quarantine authority however vigilant, can pretend to say how the disease has been introduced at the different points of Sunderland, Haddington, and Kirkintulloch,—no more than he can tell why it has appeared at Doncaster, Portsmouth, and an infinity of other places without spreading. Even now, it lingers at the gates of the great open cities of Edinburgh and Glasgow, as if like a malarious disease, (which I by no means say that it is) it better found its food in the hamlet and the tent, in fact, amongst the inhabitants of ground tenements, than in paved towns and stone buildings. We must go farther and acknowledge, that for many months past our atmosphere has been tainted with the miasm or poison of Cholera Morbus, as manifested by unusual cases of the disease almost everywhere, and that these harbingers of the pestilence only wanted such an ally as the drunken jubilee at Gateshead, or atmospherical conditions and

\* The Cholera in this country would appear always to travel with the pedestrian, and to eschew the stage coach even as an outside passenger.



changes of which we know nothing, to give it current and power. That the epidemic current of disease wherever men exist and congregate together, must, in the first instance, resemble the contagious so strongly as to make it impossible to distinguish the one from the other, must be self-evident; and it is only after the touchstone has been applied, and proof of non-communicability been obtained, as at Sunderland, that the impartial observer can be enabled to discern the difference.—Still, however, must he be puzzled with the inexplicable phenomena of this strange pestilence, but if he feel himself at a loss for an argument against contagion, he has only to turn to one of the most recent communications from the Central Board of Health, where he will find that “That the subsidiary force under Col. Adams, which arrived in perfect health *in the neighbourhood* of a village of India infected with Cholera, had seventy cases of the disease the night of its arrival, and twenty deaths the next day,” as if the march under a tropical sun, and the encampment upon malarious ground, or beneath a poisoned atmosphere, were all to go for nothing; and that the neighbourhood of an infected village, with which it is not stated that they held communication, had in that instantaneous manner alone, produced the disease. This is surely drawing too largely upon our credulity, and practising upon our fears beyond the mark.

The anti-contagionist, in acknowledging his ignorance, leaves the question open to examination; but the contagionist has solved the problem to his own mind, and closed the field of investigation, without, however, ceasing to denounce the antagonist who would disturb a conclusion which has given him so much contentment.—Let us here examine, for a moment, who in this case best befriends his fellow men. The latter, in vindication of a principle which he cannot prove, would shut the book of enquiry, sacrifice and abandon the sick, (for to this it must ever come the moment pestilential contagion is proclaimed,) extinguish human sympathy in panic fear, and sever every tie of domestic life,—the other would wait for proofs before he proclaimed the ban, and even then, with

pestilence steaming before him, would doubt whether that pestilence could be best extinguished, or whether it would not be aggravated into ten-fold virulence, by excommunicating the sick.

In my first letter I have endeavoured to unveil the mystery and fallacy of fumigations, for which our government has paid so dear,\* and in place of the chemical disinfectants so much extolled, of the applicability of which we know nothing, and which have always failed whenever they were depended upon, have recommended the simple and sure ones of heat, light, water, and air, with one exception, the elements of our forefathers, which combined always with all possible purity of atmosphere, person, and habitation, have been found as sure and certain in effect as they are practical and easy of application.

Of our quarantine laws I have spoken freely, because I believe their present application, in many instances, to be unnecessary cruel and mischievous. Too long have they been regarded as an engine of State, connected with vested interests and official patronage, against which it was unsafe to murmur, however pernicious they might be to commerce, or discreditable to a country laying claim to medical knowledge. The regulation for preventing the importation of tropical yellow fever, (which is altogether a malarious disease of the highest temperature of heat and unwholesome locality,) into England or even into Gibraltar, stands eminent for absurdity. It has long been denounced by abler pens than mine, and I know not how it can be farther exposed, unless we could induce the inhabitants of our West India Colonies to enforce the *lex talionis*, and institute quarantines, which they might do with the same or better reason, against the importation of pleurises and catarrhs from the colder regions of Europe; a practical joke of this kind has been known to succeed after reason, argument, and evidence, amounting to the most palpable demonstration, had proved of no avail.

While I have thus impugned the authority of boards and missions, and establishments, I trust it never can be imputed to me

\* Parliament voted a reward of £5000 to Doctor Carmichael Smith for the discovery.



that I could have intended any, the smallest personal allusion, to the eminent and estimable men of whom they are composed,—all such I utterly disclaim ; and to the individual, in particular, who presided over our mission to Russia, who has been my colleague in the public service, and whose friendship I have enjoyed from early youth, during a period of more than forty years, I would here, were it the proper place, pay the tribute of respect which the usefulness of his life, and excellence of his character, deserves.

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## LETTER I.

TO THE EDITOR OF THE WINDSOR EXPRESS.

SIR,—Being well aware of the handsome manner in which you have always opened the columns of your liberal journal to correspondents upon every subject of public interest, I make no further apology for addressing through the WINDSOR EXPRESS, some observations to the inhabitants of Windsor and its neighbourhood upon the all-engrossing subject of Cholera Morbus.

That pestilence, despite of quarantine laws, boards of health, and sanatory regulations, has now avowedly reached our shores, and we may be permitted at last to acknowledge the presence of the enemy—to describe to the affrighted people the true nature of the terrors with which he is clothed—and to point out how these can be best combatted or avoided.

That the seeds of his fury have long been sown amongst us may be proved, and will be proved, ere long, by reference to fatal cases of unwonted Cholera Morbus appearing, occasionally during the last six months, in London, Port Glasgow, Abingdon, Hull, and many other places, which, as it did not spread, have been passed unheeded by our health conservators ; but, had the poison then been sufficiently matured to give it epidemic current, would have been blazed forth as imported pestilence. Some one or other of the ships constantly arriving from the north of Europe could easily have been fixed upon as acting the part of Pandora's box, and smugglers from her dispatched instanter to carry the

disease into the inland quarters of the kingdom. I write in this manner, not from petulance, but from the analogy of the yellow fever, where this very game I am now describing, has so often been played with success in the south of Europe; and will be played off again, for so long as lucrative boards of health and gainful quarantine establishments, with extensive influence and patronage, shall continue to be resorted to for protection against a non-existent—an impossible contagion.

But to the disease in question.—It must have had a spontaneous origin somewhere, and that origin has been clearly traced to a populous unhealthy town in the East Indies—no infection was ever pretended to have been carried there, yet, it devastated with uncontrollable fury, extending from district to district, but in the most irregular and unaccountable manner, sparing the unwholesome localities in its immediate neighbourhood, yet attacking the more salubrious at a distance—passing by the most populous towns in its direct course at one time, but returning to them in fury at another, staying in none, however crowded, yet attacking all some time or other, until almost every part of the Indian peninsula had experienced its visitation.

There is an old term, as old as the good old English physician, Sydenham—*constitution of the atmosphere*—and to what else than to some inscrutable condition of the element in which we live, and breathe, and have our being—in fact to an atmospheric poison beyond our ken, can we ascribe the terrific gambols of such a destroyer. 'Tis on record, that when our armies were serving in the pestilential districts of India, hundreds, without any noticeable warning, would be taken ill in the course of a single night, and thousands in the course of a few days, in one wing of the army, while the other wing, upon different ground, and consequently under a different current of atmosphere, although in the course of the regular necessary communication between troops in the field, would remain perfectly free from the disease. It would then cease as suddenly and unaccountably as it began,—attacking, weeks after, the previously unscathed



division of the army, or not attacking it at all at the time, yet returning at a distant interval, when all traces of the former epidemic had ceased, and committing the same devastation. Now, will any man, not utterly blinded by prejudice, candidly reviewing these facts, pretend to say, that this could be a personal contagion, cognizable by, and amenable to, any of the known or even supposable laws of infection—that the hundreds of the night infected one another, or that the thousands of the few days owed their disease to personal communication,—as well affect to believe that the African Simoon, which prostrates the caravan, and leaves the bones of the traveller to whiten in the sandy desert, could be a visitation of imported pestilence.

It may then be asked, have we no protection against this fearful plague? No means of warding it off? Certainly none against its visitation! It will come—it will go; we can neither keep it out, or retain it, if we wished, amongst us. The region of its influence is above us and beyond our controul; and we might as well pretend to arrest the influx of the swallows in summer, and the woodcocks in the winter season, by cordons of troops and quarantine regulations, as by such means to stay the influence of an atmospheric poison; but in our moral courage, in our improved civilization, in the perfecting of our medical and health police, in the generous charitable spirit of the higher orders, assisting the poorer classes of the community, in the better condition of those classes themselves, compared with the poor of other countries, and in the devoted courage and assistance of the medical profession every where, we shall have the best resources. Trusting to these, it has been found that, in countries far less favoured than ours, wherever the impending pestilence has only threatened a visitation, there the panic has been terrible, and people have even died of fear; but when it actually arrived, and they were obliged to look it in the face, they found, that by putting their trust in what I have just laid down, they were in comparative safety; that the destitute, the uncleanly, above all, the intemperate and the debauched, were



almost its only victims; that the epidemic poison, whatever it might be, had strength to prevail only against those who had been previously unnerved by fear, or weakened by debauchery; and that moral courage, generous but temperate living, and regularity of habits in every respect, proved nearly a certain safeguard. They found further, that quarantine regulations were worse than useless—that the gigantic military organization of Russia—the rigorous military despotism of Prussia—and the all-searching police of Austria, with their walled towns, and guards and gates, and cordons of troops, were powerless against this unseen pestilence, and that as soon as the quarantine laws were relaxed, and free communication allowed, the disease assumed a milder character, and speedily disappeared.

I say, then, confidently, that Cholera Morbus never will commit ravages in this country, beyond the bounds of the worst purlieus of society, unless it be fostered into infectious, pestilential activity, by the absurd, however well-meant, measures of the conservative boards of health, such as have been just recommended in what has always been esteemed the most influential, best-informed journal of England, I mean the *QUARTERLY REVIEW*. If the writer of the article who recommends the enforcement of the ancient quarantine laws in all their strictness, be a medical man, he surely ought to know, that wherever human beings are confined and congregated together in undue numbers, more especially if they be in a state of disease, there the matter of contagion, the typhoid principle, the septic (putrefactive) human poison or by what other name it may be called, is infallibly generated and extends itself, but in its own impure atmosphere only, as a personal infection to those who approach it, under the form and features of the prevailing epidemic, whatever that may be. Hence we have all heard of contagious pleurisies, catarrhs, dysenteries, ulcers, &c., and if the doctrines of that writer be received, we shall soon also hear of contagious Cholera Morbus with a vengeance. His exhortations would go to shut up the sick from human intercourse, to proclaim the ban of society against them, and under

the most pitiable circumstances of bodily distress, to proscribe them as objects of terror and danger, instead of being as they actually are, helpless innocuous fellow creatures, calling loudly for our promptest succour and commiseration in their utmost need. They would go further to array man against his fellow man in all the cruel selfishness of panic terror, sever the dearest domestic ties, paralyze commerce, suspend manufactures, and destroy the subsistence of thousands, and all for the gratification of a prejudice which has been proved to be utterly baseless in every country of Europe from Archangel to Hamburgh and Sunderland. Happily for our country, these measures are now as absurd and impracticable as they would be tyrannical and unjust. They could not be borne even under the despotic military sway of Prussia and Russia, and in this free country it would be impossible to enforce them for a single week. The very attempt would at once, throughout the whole land, produce confusion and misery incalculable.

I say, on the contrary, throw open their dwellings to the free air of heaven, the best cordial and diluent of foul atmosphere in every disease—let their fellow townsmen hasten to carry them food, fuel, cordials, cloathing, and bedding, speak to them the words of consolation, and should they have fear to approach the sick, I take it upon me to say, they will be accompanied by any and every medical practitioner of the place, who, in their presence, will minister to the afflicted, inspire their breath, and perform every other professional office of humanity, without the smallest fear or risk of infection; for they read the daily records of their profession, where it has been proved to them, that in the open but crowded hospitals of Warsaw, under the most embarrassing circumstances of warfare and disease, out of a hundred medical men, with their assistants and attendants, frequenting the sick wards of Cholera, not one took the disease; that, for the sake of proving its nature, they even went so far as to clothe themselves with the vestments of the dying, to sleep in the beds of the recently dead, and to inoculate themselves in every way with the blood and fluids of the worst cases, without, in a single



instance, producing Cholera Morbus.\* The accounts may not, indeed, cannot be the same from every other quarter, for medical men must be as liable to fall under the influence of an atmospheric epidemic disease as other classes of the community; but the above fact is alone sufficient to prove that it cannot be a personal contagion.

Even should that worst of true contagions, the plague of the Levant, which every nation is bound to guard against, despite of all our precautions, be introduced amongst us, measures better calculated for the destruction of a community, could scarcely be devised, than the ancient quarantine regulations; for they certainly would convert every house proscribed by their mark, into a den and focus of the most concentrated pestilential contagion, ensuring fearful retribution upon those who had thus so blindly shut them up. The mark alone, besides being equivalent to a sentence of death upon all the inmates, would effect all this—the sick would be left to die unassisted, unpurified, uncleansed amidst their accumulated contagion, and the dead, as has happened before, lie unburied or scarcely covered in, till they putrified in pestiferous heaps. Most certainly it would be proper and beneficial, even a duty, for all who could afford the means, and were not detained by public duties, to fly the place, and equally proper for the other residents who continued in health, to segregate themselves as they best could.—Plenty of free labour amongst those who must ever work for their daily bread, would still remain for all municipal purposes, and these our rulers, so far from consenting thus to proscribe the sick, should employ openly in giving them every succour and aid, under the direction and with instructions of safety from a well arranged medical police. It would not be difficult to show, that the mortality, during the last great plague in London, was increased a hundred fold, by following the very measures now recommended in these regulations; and, that the barbarous predestinarian Turk, in the very head quarters of the plague itself, who despises all regulation,

\* Vide Medical Gazette.

but attends his sick friend to the last, never yet brought down upon his country such calamitous visitations of pestilence, as enlightened Christian nations have inflicted upon themselves, by ill-judged laws. The Turk, to be sure, by rejecting all precaution, and admitting, without scruple, infection into his ports, sees Constantinople invaded by the plague every year; but, when not preposterously interfered with, it passes away, even amongst that wretched population, like a common epidemic, without leaving any remarkable traces of devastation behind it: and surely to establish and make a pest-house of the dwelling of every patient who might be discovered or even suspected to be ill, would be most preposterous. The writing on the wall would not be more appalling to the people, and scarcely less fatal to the object, than the cry of mad dog in the streets, with this difference, that when the dog was killed, the scene would be closed, but the proscribed patient would remain, even in his death and after it, to avenge the wrong.

But sufficient to the day is the evil thereof, the question is now of Cholera Morbus; I am willing to meet any objection, and the most obvious one that can be offered to me, (if it be not an imported disease) is its first appearance in our commercial sea-ports. To this I might answer, that it has been hovering over us, making occasional stoops, for the last six months, even in the most inland parts of the country; but I will waive that advantage, and meet it on plainer grounds of argument and truth.—An atmospherical poison must evidently possess the greatest influence, where it finds the human race under the most unfavourable circumstances of living, habits, locality, and condition. Now, where can these be met with so obviously as in our large sea-port towns on the lowest levels of the country, and in their crowded alleys, always near to the harbour for the shipping? There the disease, if its seeds existed in the atmosphere, would be most likely to break out in preference to all other situations; and if at the time of its so appearing, ships should arrive, as they are constantly doing from all parts of the world, whose crews,



according to the custom of sailors, plunge instantly into drunkenness and debauchery, and present as it were, ready prepared, the very subjects the pestilence was waiting for ; how easy then, for an alarmed or prejudiced board of health to point out the supposed importing vessel, and freight her with a cargo of the new pestilence from any part of the world they may choose to fix upon. This is no imaginary case ; it was for long of annual occurrence with respect to the yellow fever, both in the West Indies and North America. “ There our thoughtless intemperate sailors were not only the first to suffer from the epidemic, in its course or about to begin, but they were denounced as the importers, by the prejudiced vulgar, and the accusation was loudly re-echoed even amongst the better informed, by all who wished to make themselves believe that pestilence could not be a native product of their own atmosphere and habitations.”

Before I have done, I feel called upon to say a few words upon the efficacy of fumigation as a preservative against Cholera Morbus and other infectious diseases. In regard to the first the question is settled. In Russia, throughout Germany, and I believe everywhere else in Europe, they were productive of no good, they did mischief, and were therefore discontinued. This has been verified by reports from the seats of the disease everywhere. In regard to other contagions I can speak, not without knowledge, at least not without experience, for it was the business and the duty of my military life, during a long course of years, to see them practised in ships, barracks, hospitals, and cantonments, and I can truly declare I never saw contagion in the smallest degree arrested by them, and that disease never failed to spread, and follow its course unobstructed, and unimpeded by their use. In the well-conditioned houses of the affluent where ventilation and cleanliness are matters of habit and domestic discipline, they may be a harmless plaything during the prevalence of scarlet fever and such like infections, or even do a little good by inspiring the attendants with confidence, however false, as a preservative against contagion ; but in the confined

dwellings of the poor they are positively mischievous, because they cannot be used without shutting out the wholesome atmospheric air, and substituting for it a factitious gas, which for aught we know, or can know of the nature of the contagious vapour, whether acid, alkaline, or anything else, may actually be adding to its deleterious principle instead of neutralising it: but in thus striking away a prop from the confidence of the poor, I thank God I can furnish them with other preservatives and disinfectants, which I take it upon me to say, they will find as simple and practicable as they are infallible. For the first, the liberal use of cold water and observance of free ventilation, with slaked lime to wash the walls, and quick lime when they can get it, to purify their dung heaps and necessaries, are among the best; but when actually infected, then heat is the only purificator yet known of an infected dwelling. Let boiling water be plentifully used to every part of the house and article of furniture to which it can be made applicable. Let portable iron stoves, filled with ignited charcoal only, be placed in the apartment closely shut, and the heat kept up for a few hours to any safe degree of not less than 120° Fahrenheit, and let foul infected beds and mattresses be placed in a baker's oven heated to the same,\* and my life for it no infection can after that possibly adhere to houses, clothes, or furniture. The living fountain of infection from the patient himself, constantly giving out the fresh material, cannot of course be so closed, but whether he lives or dies, if the above be observed, he will leave no infection behind him.†

It is now time to bring this tedious letter to a close; I shall be happy, through the same channel, to give any information, or answer any inquiries that may be authenticated by the signature of the writer; but anonymous writing of any kind, I shall not

\* The oven on that account need not lose character with bread-eaters, for according to the old adage, *Omne vitium per ignem excoquitur*.

† Light too, more especially when assisted by a current of atmospheric air, is a true and sure disinfectant, but it is not so applicable as heat in the common contagions, from requiring an exposure of the infected substances for days together, or even a longer period, before it can be made effective.



consider myself bound to notice. Should the dreaded disease spread its ravages throughout our population, I may then, at some future early opportunity, trusting to your indulgence, trespass again upon your columns with further communications on this most interesting subject.

WILLIAM FERGUSON,

Inspector-General of Hospitals.

P.S.—Throughout the foregoing letter, I have used the words contagion and infection as precisely synonymous terms, meaning communicability of disease from one person to another.

*November 9, 1831.*

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## LETTER II.

TO THE EDITOR OF THE WINDSOR EXPRESS.

SIR,—In my last letter, I treated of the practicability of guarding our country against the now European and Continental disease, malignant Cholera Morbus, by quarantine regulations. In the present one, it is my intention still in a popular manner to scrutinise more deeply, the doctrine of imported contagions; to point out, if I can, those true contagions which can be warded off by our own exertions, in contradistinction to others which are altogether beyond our controul; and here it may be as well to premise, that when I use the term epidemic, I mean atmospheric influence, endemic-terrestrial influence, or emanation from the soil; and by pestilential, I mean the spread of malignant disease without any reference to its source. The terms contagion and infection have already been explained.

It must be evident, that legislative precaution can only be made applicable to the first of these. The last being unchangeable by human authority, are not to be assailed by any decrees we can fulminate against them; and if it can be shown, which it has

been by our best and latest reports, that Cholera Morbus eminently and indisputably belongs to that class—that the strictest cordons of armed men could not avail to save the towns of the continent, nor the strictest quarantine our own shores, from its invasion—it surely must be time to cease those vain attempts, to lay down the arms that have proved so useless, and turn our undivided attention, now that it has fairly got amongst us, to conservative police, and the treatment of the disease; but as the contagionists still insist that it was imported from Hamburgh to Sunderland, it behoves us to clear away this preliminary difficulty before proceeding to other points of the enquiry.

I take it for granted, that ships proceeding from Sunderland to Hamburgh could only be colliers, and that according to the custom of such vessels, they returned, as they do from the port of London, light; and I admit, that on or about the time of their return, Cholera Morbus, under the severe form which characterises the Asiatic disease, made its appearance in that port, presenting a fair *prima facie* case of imported contagion; but as at the period of its thus breaking out in Sunderland, a case equally as fatal and severe shewed itself, according to the public accounts, in the upper part of Newcastle, 10 miles off; another equally well-marked, in a healthy quarter in Edinburgh; a third, not long before in Rugby, in the very centre of the kingdom; and a fourth in Sunderland itself, as far back as the month of August, as well as many others in different parts of the country;\* it became incumbent on the quarantine authorities, indeed upon all men interested in the question, whether contagionists or otherwise, to shew the true state of these vessels, as well as of the cases above alluded to, and whether the Cholera Morbus had ever been on board of them, either at Hamburgh or during the

\* Two of a type most unusual for this country, and the Winter Season, have occurred in the vale of the Thames, not far from here, which, as they both recovered, and the disease did not spread in any way, were very properly allowed to pass without sounding any alarm, but the gentleman who attended one of the cases, and had been familiar with the disease in India, at once recognized it again, in its principal distinguishing features.



homeward voyage, so as by any possibility they could have introduced the disease into an English port. Now will any person pretend to say that this has been done, or that it could not have been done, or deny that it was a measure, which, if properly executed, would have thrown light upon the true character of the disease, not only for the information of our own government but of every government in Europe; that deputations from the Board of Health, backed and supported by all the power and machinery of government, with the suspected ships locked up in quarantine, and the persons of the crews actually in their power, could not have verified to the very letter, the history of every hour and day of their health, from the moment of their arrival at Hamburgh till their return into port? This measure was so obviously and imperiously called for, as constituting the only rational ground on which the importing contagionists could stand, or their opponents meet them in argument, that after having waited in vain for the report, I raised my own feeble voice in the only department to which I had access, urging an immediate, though then late, investigation. No good cause, having truth for its basis, could have been so overlooked, and without unfairness or illiberality, we are irresistibly forced to the conclusion, that had the enquiry (the only one, by the bye, worth pursuing, as bearing directly on the question at issue) been pushed to the proof, it would have shown the utter nullity of quarantine guards against atmospheric pestilence, the thorough baselessness of the doctrine of importation.

Without entering into the miserable disputes on this subject, which, amidst a tissue of fable and prejudice, self-interest and misrepresentation, have so often disgraced the medical profession at Gibraltar; I shall now proceed to shew, by reference to general causes, how baseless and mischievous have been the same doctrines and authority when exercised in that part of the British dominions :—

Within the last thirty years, yellow fever has, at least four times, invaded the fortress of Gibraltar; during which time also,

the population of its over-crowded town has more than quadrupled, presenting as fair a field, for the generation within, or reception from without, of imported pestilence as can well be imagined,—yet plague, the truest of all contagions, typhus fever, and other infectious diseases, have never prevailed, as far as I know, amongst them. The plague of the Levant has not been there, I believe, for 150 years; yet Gibraltar, the free port of the Mediterranean, open to every flag, stands directly in the course of the only maritime outlet, from its abode and birth-place in the east, being in fact, to use the language of the road, the house of call for the commerce of all nations coming from the upper Mediterranean. Now, can there be a more obvious inference from all this, than that the plague, being a true contagion, may be kept off without difficulty, by ordinary quarantine precautions; but the other being an endemic malarious disease, generated during particular seasons, within the garrison itself, and the offspring of its own soil, is altogether beyond their controul. The malarious or marsh poison, which in our colder latitudes produces common ague, in the warmer, remittent fever, and in unfavourable southern localities of Europe, (such as those of crowded towns, where the heat has been steadily for some time of an intertropical degree)—true yellow fever, which is no more than the highest grade of malarious disease; but this has never occurred in European towns, unless during the driest seasons—seasons actually blighted by drought, when hot withering land winds have destroyed surface vegetation, and as in the locality of Gibraltar, have left the low-lying becalmed, and leeward town to corrupt without perflation or ventilation amidst its own accumulated exhalations. I know not how I can better illustrate the situation of Gibraltar in these pestiferous seasons, than by a quotation from a report of my own on the Island of Guadaloupe, in the year 1816, which, though written without any possible reference to the question at issue, has become more apposite than anything else I could advance; “all regular currents of wind have the effect of dispersing malaria; when this purifying influence is with-held, either



through the circumstances of season, or when it cannot be made to sweep the land on account of the intervention of high hills, the consequences are most fatal. The leeward shores of Guadaloupe, for a course of nearly 30 miles, under the shelter of a very steep ridge of volcanic mountains, never felt the sea breeze, nor any breeze but the night land-wind from the mountains ; *and though the soil, which I have often examined, is a remarkably open, dry and pure one, being mostly sand and gravel, altogether, and positively without marsh, in the most dangerous places, it is inconceivably pestiferous throughout the whole tract, and in no place more so than the bare sandy beach near the high-water mark.* The coloured people alone ever venture to inhabit it ; and when they see strangers tarrying on the shore after nightfall, they never fail to warn them of their danger. The same remark holds good in regard to the greater part of the leeward coasts of Martinique, *and the leeward alluvial bases and recesses\* of hills, in whatever port of the torrid zone they may be placed,* with the exception, probably of the immediate sites of towns, where the pavements prevent the rain-water being absorbed into the soil, and hold it up to speedy evaporation.” Now, conceive a populous crowded town placed in this situation, and you have exactly what Gibraltar and the other towns of Spain and North America, liable to yellow fever, must become in such seasons as I have above described, only. that as they grow more populous and crowded, the danger must be greater, and its visitations more frequent, unless the internal health police be made to keep pace in improvement, with the increasing population.

Now in the name of injured commerce—of the deluded people of England—of medical science—of truth and humanity—what occasion can there be to institute an expensive quarantine against such a state of things as this, which can only be mitigated by

\* The leeward niches and recesses of hills, however dry and rocky, become in these seasons of drought, absolute dens of malaria, this will be found proven in my reports more especially of the islands of Dominique and Trinidad, which may be seen at the Army Medical Board Office.

domestic health police ; or why conjure up the unreal phantom of an imported plague, to delude the unhappy sufferers, as much in regard to the true nature of the disease, as to the measures best calculated for their own preservation ; when it must be evident that the pestilence has sprung from amidst themselves, and that had it been an external contagion in any degree, the ordinary quarantine, as in case of the plague, would certainly have kept in off ; but the question of the contagion of yellow fever, so important to commerce and humanity, and which, like the Cholera, has more than once been used to alarm the coasts of England, demands yet further investigation.

For nearly 40 years have the medical departments of our army and navy been furnished with evidence, from beyond the Atlantic, that this disease possessed no contagious property whatever. These proofs now lie recorded by hundreds in their respective offices, and I take it upon me to say, they will not be found contradicted by more than one out of a hundred, amongst all the reports from the West Indies, which is as much the birth-place of the yellow fever, as Egypt is of the plague : yet, in the face of such a mass of evidence, as great or greater probably than ever was accumulated upon any medical question, has our Government been deluded, to vex commerce with unnecessary restraints, to inflict needless cruelties upon commercial communities, (for what cruelty can be greater than after destroying their means of subsistence by quarantine laws, to pen them up in a den of pestilence, there to perish without escape, amidst their own malarious poison ?) and to burden the country with the costs of expensive quarantine establishments. Surely if these departments had done their duty, or will now do it, in so far as to furnish our rulers with an abstract of that evidence, with or without their own opinions, for opinions are as dust in the balance when put in competition with recorded facts, it must be impossible that the delusion could be suffered to endure for another year ; or should they un- luckily fail thereby to produce conviction on Government, they can refer to the records of commerce, and of our transport depart-



ments, which will shew, if enquiry be made, that no ship, however deeply infected before she left the port, (and all ships were uniformly so infected wherever the pestilence raged) ever yet produced, or was able to carry a case of yellow fever beyond the boundaries of the tropics, on the homeward voyage, and that therefore the stories of conveying it beyond seas to Gibraltar, must have been absolutely chimerical. It would indeed, have been a work of supererrogation, little called for, for I think I have fully shown that Gibraltar must be abundantly qualified to manufacture yellow fever for herself.

No less chimerical will be the attempt to shut out Cholera Morbus from our shores by quarantine laws, because throughout Europe, ready prepared, alarmed, and in arms against it, they have succeeded nowhere ; whereas, had it been a true contagion and nothing else, they must, with ordinary care, have succeeded everywhere ; the disease, as if in mockery, broke through the cordons of armed men, sweeping over the walls of fortified towns, and following its course, even across seas, to the shores of Britain ; and yet we are still pretending to oppose it with these foiled weapons.

We are indeed told, by authority, that its appearance in towns has always been coincident with the arrival of barges from inland, or by ships from the sea, but if it be not shown at the same time that the crews of these barges had been infected with the disease, or if, as at Sunderland, no person on board the ships can be identified as having introduced it, while we know that the disease actually was there two months before, we may well ask at what time of the year barges and ships do not arrive in a commercial seaport, or where an epidemic disease, during pestiferous seasons could be more likely to break out than where the most likely subjects are thrown into the most likely places for its explosion, such as newly arrived sailors in an unwholesome seaport, where the license of the shore, or the despondency of quarantine imprisonment, must equally dispose them to become its victims.— Besides, what kind of quarantine can we possibly establish with

the smallest chance of being successful against men who have not got, and never had the disease. Merchandise has been declared incapable of conveying the infection\*, and are we to interdict the hulls and rigging of Vessels bearing healthy crews, or are we to shut our ports at once against all commerce with the North of Europe, and would this prove successful if we did? a reference to a familiar epidemic will I think at once answer this question.

It is only three months ago that the epidemic Catarrh or Influenza spread throughout the land, travelling like the Cholera in India, when it went up the monsoon, without regard to the East wind; and what could be more likely than the blighting drying process of such a wind, in either the one or the other case, to prepare the body for falling under the influence of whatever disease might be afloat in the atmosphere. In general this passing disease can be distinctly traced, as having affected our continental neighbours on the other side of the channel before ourselves: now can it be supposed that any quarantine could have prevented its first invasion, or arrested its farther progress amongst us. How ridiculous would have been the attempt, and yet with the experience of all Europe before us, have we been enacting that very part with the Cholera Morbus: but further, the same authority which calls for the establishment of quarantine in our ports, tells us that neither proximity nor contact with the sick,† is requisite for the production of the disease: now can anything further be wanting beyond this admission, to prove that it must be an epidemic atmospherical poison, and not a personal contagion, and that, under such circumstances, the establishment of quarantine against persons and goods, would manifestly be absurd and uncalled for. So fully satisfied has the Austrian Government been made by experience, of the futility and cruelty of such quarantines, that the Emperor apologises to his subjects for having inflicted them. The King of Prussia makes a similar *amende*, and the Emperor of Russia convinced by the same experience, abolished or greatly relaxed his quarantines several months ago.

\* Vide Russian Ukase.

† Vide Reports from Russia.



I am by no means prepared to assert, because I cannot possibly know to the contrary, although from the analogy of other disease I do not believe it, that the Cholera Morbus may not become contagious under certain conditions of the atmosphere, but these cannot be made subject to quarantine laws, and I am fully prepared to acknowledge, that as in the case of other epidemics, it may be made contagious through defective police ; but independent of these, it possesses other powers and qualities of self-diffusion, which we can neither understand nor controul. Such, however, is not the case with that other phantom of our quarantine laws—the yellow fever—which can never, under any circumstances of atmosphere, without the aid of the last be made a contagious disease. I speak thus decisively from my experience of its character, as one of the survivors of the St. Domingo war, where, in a period of little more than four years, nearly 700 British commissioned officers, and 30,000 men were swept away by its virulence ; as also from subsequent experience, after an interval of 20 years, when in the course of time and service, I became principal medical officer of the windward and leeward colonies, and in that capacity, surveyed and reported upon the whole of these transatlantic possessions.

It was my intention, in these times of panic, to designate to my countrymen, in as far as I could, the true essential intrinsic contagions of the British Isles, (for such there are, and terrible ones too,) which prevail under all circumstances of season, atmosphere, and locality, as contradistinguished from the factitious ones, of our own creating, and the imaginary or false which often spread epidemically, (for there may be an epidemic as well as contagious current of disease)\* although they possess no con-

\* For as long as men congregate together, and every supposable degree of communication must of necessity be constantly taking place amongst them, to distinguish a spreading epidemic from a contagious disease when it first breaks out, must obviously be a matter of impossibility ; and upon this point the contagionists and their antagonists may rail for ever,—the one will see nothing but contagion, whether in the dead or the living body, and the other will refer every fresh case to atmospheric or terrestrial influence, and both with as much

tagious property whatever ; as well as the foreign contagions, which, if we relax in due precaution, may, at any time, be introduced amongst us—but the unreasonable length of this letter, for a newspaper communication, warns me to stop.

I have written thus earnestly, because I deeply feel what I have here put down. It is possible I may have made mistakes, but if I have, they are not intentional, and I shall be happy to be corrected, for I do not live at the head quarters of communication, and my broken health prevents my frequenting in person, the field of investigation. In candour I ought to declare, that the establishment of quarantine against this new and hideous pestilence in the first instance, was the most sacred duty of Government, but now that its true character has been made known, and the futility of quarantine restrictions demonstrated, I feel equally bound, as one of the lieges, to enter my humble protest against their continuance.

Should I write again, I shall still adopt the same popular style, for no other can be adapted to a newspaper communication, and the subject-matter is as interesting to the public, and every head of a family, as it can be to the professional reader ; and, in thus making use of your columns, as I can have no motive but that of ardent research after truth, I know that I may always rely upon your assistance and co-operation.

WILLIAM FERGUSSON,

Inspector-General of Hospitals.

*Windsor, Nov. 26, 1831.*

apparent reason as they possibly could desire : but the candid impartial investigator, who waits to observe the course of the disease before coming to a conclusion, and refers to the facts furnished in the Cholera Hospitals of Warsaw and the sick quarters of Sunderland, will never be deceived in regard to its real nature, nor propagate the appalling belief that Cholera Morbus can be made a transportable and transmissible contagion.



## LETTER III.

TO THE MEDICAL SOCIETY OF WINDSOR.

In this paper it is my intention to treat of the contagious diseases of the British Isles, as well as to offer to the Society some observations on malignant Cholera Morbus, and the mode of its propagation from the tropical regions, where it first arose, to the colder latitudes of Europe.

Having already published two letters on this last part of my subject, I need not here take up your time in recapitulating their contents, but proceed to the consideration of some remaining points of the enquiry ; which I find I have either overlooked, or not been so explicit in illustration, as I otherwise might, had I been addressing a body of professional men, instead of the community where I live, with the view of *disabusing* their minds from the effects of irrational panic, and opening their eyes to what I deemed true measures of preservation against the impending disease ; and here I may as well add that when I wrote in a newspaper and adopted the style suited to such a channel of communication, I knew none so likely to attract the attention of those influential men, who might possess the power and the will, when disabused of prejudice, to enforce proper laws, instead of running the course that had already been imposed upon them, by men interested in the upholding of our quarantine establishments, or by prejudiced, however well meaning, Boards of Health.

In looking over those letters, I find that the points most open to dispute are the course of the disease throughout the Indian peninsula, and its progress to the frontiers of Russia ; as well as its supposed infectious nature, and mode of propagation by human intercourse. In regard to the first, there is no contagionist however avowed and uncompromising, who does not admit that this erratic disease did not often wander from its straight line when the most promising fields lay directly before it ; or stop short

most unaccountably in its progress, when the richest harvest of victims seemed actually within its jaws—that its course was circuitous when, according to the laws of contagion, it ought to have been straight,—that it refused its prey at one time, and returned to it at another, in a manner that showed its progress was governed by laws which we could neither understand nor controul ; and if we search the reports of contagionist writers, we shall find fully as much, and as strong evidence of its progress being independent of human intercourse, as of its being propagated and governed by the laws of contagion\*.

To the question, which has so often been triumphantly asked, of its progress to the Russian frontiers being conducted by caravans along the great highways of human intercourse, and what else than contagion could cause it to be so carried ? An admirable journalist has already replied by asking in his turn, on what other line than amongst the haunts of men could we possibly have found, or detected a human disease ? And surely the question is most pertinent, for in those barbarous regions that interpose between Russia and India, where the wolf and the robber hold divided alternate sway, and isolated man dares not fix his habitation, but must congregate for safety ; where else than in those great thoroughfares could the disease have found its food ; or if beyond these, man, almost as ignorant and as savage as the wolf, could have been found ; who under such circumstances would have recognised, described, and testified to its existence ? Even at Sunderland, amongst ourselves, its existence was long hotly disputed by the learned of the faculty ; and the fatalist barbarian of these regions would have dismissed the enquiry with a prayer of resignation, while he bowed his head to the grave, or if his strength permitted, with a stroke of his dagger against the impious enquirer who had dared to interfere with the immutable decrees of fate. The stories too of its importation into Russia, are exactly the same as have come to us from our own Gibraltar, in the case

\* Vide Orton, Kennedy, &c.



of the yellow fever, and may be expected to come from every other quarter where a well paid officious quarantine is established to find infection in its own defence, and to trace its course in proof of their own services and utility. Under such circumstances, this well gotten up drama of importation may be rehearsed in every epidemic, adapted in all its parts to every place and every disease, they wish to make contagious. First will be presented, as at Gibraltar, the actual importers—their course traced—the disease identified—its reception denounced, and quarantine established; and this will go down until sober minded disinterested men become engaged in the enquiry, when it will turn out in all probability, that the importers, as at Sunderland, never had the disease—that it was in the place long before their arrival—that in its supposed course, it either had no existence, or had long ceased—in fact that the importation was a fable, the product either of design or an alarmed imagination. On this point I shall not here farther dwell, but proceed to the still keenly disputed question of its contagious, or non-contagious nature.

Amongst all those who have advocated the affirmative side of the question, an anonymous writer in the *LANCET*, of Nov. 19th. seems to me the ablest special pleader of his party, and the best informed on the subject, which he has grappled with a degree of acumen and power that must at once have secured him the victory, in any cause that had truth for its basis, or that could have stood by itself; but strong and scornful as he is, he has himself furnished the weapons for his own defeat, and has only to be correctly quoted in his own words, for answer to the most imposing and powerful of his arguments. I take it for granted, that no one will give credit to instantaneous infection, at first sight, but allow that an interval must elapse between the reception of the virus, and explosion of the disease. Kennedy and the best of the contagionist authors, have fixed the intervening time from two days to a longer uncertain period; yet that writer (in the *LANCET*) proceeds to tell us, in proof of the virulence of the contagion, that when twenty healthy

reapers went into the harvest field at Swedia, near Tripoli, and one of them at mid-day was struck down with the disease, he then instantly, as if, instead of being prostrate on the ground, he had run a muck for the propagation of Cholera Morbus, infected all the rest, so that the whole were down within three hours, and all were dead before the following morning\*—All this too in the open air. Another writer of note relates that when a healthy ship on the outward voyage arrived in Madras Roads, her people were seized with Cholera Morbus that very morning; but they go further than this, and command us to believe in its contagious powers, without sight at all, quoting the report from our Commissioners in Russia, where it is officially announced “that neither the presence, nor contact of the patient is necessary to communicate the disease.” Surely in candour we may be allowed to say that when they limit their views to contagion alone, they have attributed powers to it, which it never did, and never can possess. That some other principle, besides their favourite one, must have been in operation, as well in the field of Swedia, when it struck down the reapers, as when it blighted our armies in the East, for these sudden bursts and explosions of pestilence are incompatible with the laws and progress of natural contagion,—that if, under a tropical temperature, which dissipates all infection, there be contagion in the disease, there must also be other powers of diffusion hitherto inscrutable, incomprehensible, and uncontrollable,—that their doctrine of contagion exclusively, is superficial narrow, and intolerant, and their arguments in support of it, no more than a delusion of prejudice, a piece of consummate special pleading to make the worse appear the better reason.†

\* The precise words are “20 peasants of Swedia, robust, vigorous, and in the flower of life, were labouring at the harvest work, when on the 9th. of July, at noon, one was suddenly attacked, and the others in a short time showed symptoms of the disorder. In three hours, the entire band was exhausted; before sunset many had ceased to live, and by the morrow there was no survivor.”

† The remainder of the paper, as presented to the Society, treated of Typhus fever, and other matter, that had no reference to the disease in question.



Before concluding these observations, I would wish to make a few remarks upon some points of the enquiry which have been either too cursorily passed over, or not noticed at all; and first of its supposed attraction for, and adherence to the lines and courses of rivers whether navigable or otherwise. I do not think this quality of the disease has been assumed on grounds sufficient to justify anything like an exclusive preference. Along these lines, no doubt, it has very frequently been found, because a malarious, a terrestrial, a contagious, or indeed any other disease, would for many reasons, best prevail on the lowest levels of the country, or the deepest lines on its surface, like the vallies of rivers, provided the food on which it fed—population—there abounded. It would be difficult almost anywhere to point out a populous city unconnected with the sea, rivers, or canals; the water population of which, from their habits of life and occupations, everywhere crowded, dirty, careless, and exposed, must always afford ready materials for any epidemic to work upon, and this may have given currency to the prevailing opinion; but I rather believe, when enquiry comes to be made, it will be found that the worst ravages of Cholera Morbus have been experienced in the great level open plains of Upper Germany, and the boundless jungly districts of India, remote from, or at least unconnected with water communication, denoting thereby atmospheric influence and agency, rather than any other.

Another consideration of some importance is the burial of the dead, which according to published reports, has in some places been enforced in so hurried a manner as deeply to wound the feelings of surviving relatives, and in others to give rise to the horrid suspicion of premature interment. Can this have been necessary in any disease, even allowing it to be contagious, or was it wise and dignified in the medical profession to make this concession to popular prejudice, at all times when excited, so unmanageable and troublesome. Although we cannot analyse the matter of contagion, we surely know enough of it to feel assured, that it must be a production and exhalation from the

living body, arising out of certain processes going on there, in other words out of the disease itself, which disease must cease along with the life of the patient, and the exhalation be furnished no longer—that during life it was sublimed, so as to leave the body and become diffused around through the agency of the animal heat, created by the functions of respiration and circulation of the blood, which being foreclosed and the supplies cut off, all that remained of it floating before death in the atmosphere, must be condensed upon the cold corpse and lie harmless.\* It must also be evident that when putrefaction begins, no production of what belonged to the living body can remain unchanged, but must undergo the transformation in form, substance and quality, ordained for all things ; for putrefaction, although it may possibly produce a disease after its own character, is not pestilence, nor even compatible with it in the case of specific diseases.

The puerile stories, therefore, of infection being taken from following a confined corpse to the grave, without reference to the state of grief, fear, and fatigue, not improbably, of drunkenness, in the mourners, must be unworthy of attention. I am no friend to the absurdly long interval which in this country is allowed to elapse,† even in the hottest weather, between death and burial ; but still more do I deprecate the indecent haste which would give sanction to panic, and incur the risk or even the suspicion of inter-

\* Even when a living product, we are authorised to believe, from observations made upon the plague, that it cannot be propelled to a greater distance than a few feet from the body of the patient—that it is heavier than common air, settling down in a remarkable manner upon the sick bed, and saturating the lower strata of the atmosphere in the sick apartment.

† After sending these letters to the press, I saw in the public prints that the Bishop of the Diocese had forbidden the funerals of the dead from Cholera to be received in the churches of London. Instead of thus forbidding a part, better have the whole of the service performed there (where crowds do not come) under cover from the weather, than in the open churchyard, where the mourners uncovered, are exposed in every way to damp and cold, and the jostling of the mob ; better still have all the service deemed necessary, performed at the residence of the deceased.



ment before dissolution. In regard to separate burying grounds, should the disease come to spread, I am sure no one will expect, after what has just been said, that I should attempt to argue the question seriously, nor enter a protest against the further gratuitous wrong of withholding the rites of sepulture in consecrated ground from the victims of an epidemic or even a contagious disease.—Nothing could warrant such a measure but want of room in the ordinary churchyards, where police should never be allowed to interfere with the rights and feelings or property, of the living, unless to ensure the privacy of funerals; nothing being so appalling to an alarmed people as the spectacle of death in their streets, or so trying to the health of the mourners, as tedious funeral ceremonies amidst a crowd of people.

Were I called upon to criticise what I have now written, and to review all that I have seen, read, and heard on the subject, I would conscientiously declare that the importation of Cholera Morbus into England or anywhere else, had been clearly negatived, and its non-contagious character almost as clearly established, always however with the proviso and exception of the possibility of its being made a temporary contingent contagion, amidst filth and poverty, and impurity of atmosphere, from overcrowding and accumulation of sick, but neither transmissible nor transportable out of its own locality, through human intercourse. As the disease, like all the other great plagues, which at various periods have desolated the earth, evidently came from the east, it would be most desirable in pursuing our investigation, to have a clear knowledge of the mode of its introduction into Russia on the eastern boundary of Europe. Unfortunately we can place no dependence upon the reports that have been published to prove importation there, which are lame and contradictory, although coming from the avowed partizans of contagion; but even had they been better gotten up, we could not, unless they had been confirmed by the experience of other nations, have received them with implicit reliance.

The Russian Employé of the provinces, *mendacior Parthis*,

not from greater innate moral depravity than others, but from the corruptions of a despotic government which compel him to live under the rod of a master, amidst a superstitious barbarous population, whose dangerous prejudices he dare not offend, can only give utterance to what his tyrants command. Even at the more civilized capital of Petersburg, the mob rose in arms to murder the foreign physicians when they did not act according to their liking. Could the truth then be heard on such a field, or what native officer would venture to impugn the authority of his rulers, proclaiming contagion? If he did, he must cease to live in the official sense of the word. Throughout Europe, from east to west, the disease has followed its own route according to its own incomprehensible laws, despite of every obstacle and precaution. We have the authority of our own Central Board for believing that the disease cannot be conveyed by merchandize of any kind, and that of our mission to Russia for greatly doubting whether it can adhere to personal clothing or bedding; and will it be pretended that human beings, labouring under such a distemper in any form, could have been the vehicles of spreading it in a straight line for thousands of miles throughout civilized nations, armed and prepared to defend themselves against its inroads,—they tried, but in vain. We, too, may strive to discover the demon of the pestilence amidst the clouds of the climate, or the winds of Heaven. He remains hidden to our view; and until better revealed, it only remains for us to exercise towards our fellow men those duties which humanity prompts, civilization teaches, and religion enjoins.



## POSTSCRIPT.

My friend, Doctor Stanford, of the Medical Staff, now settled here, has given me the following valuable information, which my own observation confirms, regarding the agency of panic, in promoting the diffusion of epidemic disease. He happened to be serving with part of the British army, at Cadiz, when an eruption of yellow fever took place there, in the autumn of 1813, and as usually happens amongst medical men, the first time they have seen that fever, some of them were staunch contagionists, and impressed that belief upon the corps to which they belonged. In all these the disease was most fatal to great numbers. The men being half dead with fear, before they were taken ill, speedily became its victims, to the great terror and danger of their surviving comrades ; but in the other regiments, where no alarm had been sounded, the soldiers took the chances of the epidemic with the same steady courage they would have faced the bullets of the enemy, in the lottery of battle ; escaping an attack for the most part altogether, or if seized, recovering from it in a large proportion. From this picture let us take a lesson, in case the impending epidemic should ever come to spread in the populous towns of England, and the cry of contagion be proclaimed in their streets. The very word will spread terror and dismay throughout the people, causing multitudes to be infected, who would otherwise, in all probability, have escaped an attack, and afterwards consign them to death in despair, when they find themselves the marked and fated victims of a new plague. Whatever they see around them, must confirm and aggravate their despair, for desertion and excommunication in all dangerous diseases, too certainly seal the fate of the patient. It will be vain to tell them that hireling attendance has been provided,—the life of the Choleraic depends upon the instant aid—the able bodied willing aid of affectionate friends, who will devote themselves to the task, and persevere indefatigably to the

last. If these be driven from his bed, his last stay is gone, for without their active co-operation the best prescription of the physician is only so much waste paper. What, let me ask, must have been the fate of the patient, and what the consequent panic, if the case of Cholera that occurred in London, a month ago at the Barracks of the Foot Guards, had been proclaimed, and treated as a contagion? The poor fellow was promptly surrounded by his fearless comrades, who with their kind hands recalled and preserved the vital heat on the surface, by persevering in the affectionate duty of rubbing him for many hours; but had the Medical Staff of the regiment been true contagionists, they must, as in duty bound, have commanded, and compelled every one of them to fly the infection. It depended upon them, to have spread around a far wilder and more dangerous contagion than that of Cholera Morbus, or any other disease,—the contagion of fear—and from what occurred at Cadiz, as above related, it is to be hoped our medical men will now see how much they will have it in their power, when Cholera comes, to pronounce, or to withhold sentence of desolation upon a community. The word Contagion will be the word of doom, for then the healthy will fly their homes, and the sick be deserted; but a countenance and bearing, devoid of that groundless fear, will at once command the aid, and inspire the hopes that are powerful to save in the most desperate diseases.

It is stated, in a Scotch newspaper, that two poor travellers, passing from Kirkintulloch to Falkirk, ran the risque of being stoned to death by the populace of the latter place, and were saved from the immolation only by escaping into a house; and in an Irish one, that some shipwrecked sailors incurred a similar danger. Such barbarities must, in the nature of things, be practised every where under a reign of terror, however humane or christianized the people may be—even the fatalism of the Turk would not be proof against it. In Spain they have been enacted in all their horrors (thanks to the quarantine laws) upon the un-



fortunate victims of yellow fever;\* and we shall soon see them repeated amongst ourselves, unless the plain truth be promulgated by authority to the people. Let them be told if such be the pleasure of our rulers, (for it is not worth while disputing the point), that Cholera Morbus is a contagion, but of so safe a nature in regard to communicability, that not one in a hundred, or even a thousand, take the disease,—that in this country, besides being a transient passing disease, which according to certain laws and peculiarities of its own, will assuredly take its departure in no long time; it is limited almost always to particular spots and localities—that it is in their own power, while it remains, to correct the infectious atmosphere of these spots, by attention to health police—that they may fearlessly approach their sick friends with impunity, for that the danger resides in the above atmosphere, and not in the person of the patient; and that in all situations they may defy it, for as long as they observe sobriety of life and regularity of habits. Thus will public confidence be restored, and thus be verified the homely adage of, “honesty, in all human affairs, being ever the best policy”; for the concealment, or perversion of the truth, however much it may be made to serve the purposes of the passing day, can never ultimately promote the ends of good government and true humanity, but must lead, sooner or later, to the exposure of the delusion, or what would be far worse, to the perpetuation of error and prejudice, and grossest abuse of the people, in regard to those interests committed to our charge.

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Doctor Henry, of Manchester, has, in a late paper, published some most interesting experiments, upon the disinfecting power of heat. He found that the vaccine virus was deprived of its infecting quality, at 140° of Farenheit, and that the contagions

\* Vide O'Halloran, upon the Yellow Fever in Spain.



of Scarlatina, and Typhus fever, from fomites, were certainly dissipated and destroyed, at the dry heat of boiling water. In regard to these last, he might surely have ventured to fix the standard of safety at a greatly lower temperature; for if the grosser vaccine matter could be rendered inert at  $140^{\circ}$ , there can be little doubt of the subtile gaseous emanations, which constitute the aerial contagions, being dissipated by the same agent, at an inferior degree. In the absence of direct experiment, we may venture to infer, that  $120^{\circ}$  would suffice, to nullify these last. Such, at least, has been the belief of those, who have been employed to purify ships, barracks, and hospitals, from contagion, and I should think it must have been founded on experience.\*

He does not treat of the disinfecting property of light, although such an agent was well worthy of his notice; for the power, which in closely stopped bottles can deprive Cayenne Pepper of its sting—render our Prussic Acid as harmless as cream, and convert the strongest medicinal powders into so much powder of *post*, can also avail to destroy the matter and principle of Contagion. In fact, no other is used for purifying goods, at our Lazzarettoes, where suspected articles of merchandise, after some nugatory fumigations, are simply exposed to light and air with such certain effect, that there is not, I believe, in this country, any record of infection being propagated from them afterwards. The experiments of Doctor Henry are as simple and beautiful in themselves, as they promise to be useful and important, for now even the horrible contagion of hospital gangrene would appear to be under the controul of the pure agent he has been describing; and the principle now established of light and heat, the grand vivifying powers of the creation, being the sure and true pre-

\* As far back as the years 1796—7—8, this fact was familiar to us in the St. Domingo war, only we were satisfied with a minimum heat of  $120^{\circ}$ , from a belief that a temperature of that height, as it coagulated the ova of insects (the cock roach for instance), and was otherwise incompatible with insect life, would avail to dissipate contagion.

servers of the creature, man, from the poisons generated even by himself, and otherwise around him, calls for our admiration and gratitude, as shewing that these agents and emanations of Almighty power can be made, in the hands of the practical philosopher, to serve the purposes of domestic science, and in as far as we can see, to fulfil, at least in that respect, the best intentions of the Creator.

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